Work Order ID 99247

April-04-13 7:28:24 AM

99247

Item ID: D205-634-041 **Accept** *N900040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Replacement Skidtube

Start Date: 4/04/13 **Start Qty:** 1.00 *1*

Required Date: 4/22/13 **Req'd Qty:** 1.00 *1*

Cust Item ID:

Customer:

Reference:

Approvals: **Process Plan:** MLJ **Date:** 13-04-04 **Tooling:** **Date:**

QC: **Date:** **SPC (Y/N):** **Date:**

Run Start *NR1*

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	**Revision Nbr**								
D2580-041	(DEO) Rev.E								
100		0.00							
100	DOCUMENT CONTROL								
DC	**Memo**	0.00							
Document Control	Photocopy D205-634 bluefile & type labels per PPP D205-634-041 CHG005								
110		0.00							
110	BENDING MACHINE - SKIDTUBES								
CNC Bend 1	**Memo**	0.00							
CNC Delta 100 Bender	1-Bend as per program D2580.C on CNC Bender and Folio 16								
	2-Cut tubes as per Dwg. D2580								
	3- scribe batch# in aft end of tube								

(1) SAD 13-04-02

DQA: _____ Date: _____

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

- Skid-tube ☐
- Machining ☐
- Thermoforming ☐
- Large Fab ☐
- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐
- ☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data										
Equip/Tooling										
Operator										
Material										
Setup										
Other										
Process										
Supplier										
Training										
Unapproved										

FAULT CATEGORY

Landing Gear

- ☐ Bending
- ☐ Centre Not Concentric to O/S
- ☐ Cracks
- ☐ Crushed/Crimped
- ☐ Cuffs
- ☐ Heat Treat
- ☐ Inspection Strip in Tube
- ☐ Ripples in Bend
- ☐ Torque Waves in Extrusion
- ☐ Turning Sequence
- ☐ Wave/Twist in Tube

General

- ☐ Bend
- ☐ BOM/Route
- ☐ Broken/Damaged
- ☐ Burrs
- ☐ Contamination
- ☐ Countersink
- ☐ Cut Too Short
- ☐ Drill Holes
- ☐ Drawing
- ☐ Finish
- ☐ Folio
- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete
- ☐ Instructions Incomplete/Unclear
- ☐ Maintenance
- ☐ Mislabeled
- ☐ Misread
- ☐ Offset
- ☐ Out of Calibration
- ☐ Out of Sequence
- ☐ Outside Dimensions
- ☐ Ovalized
- ☐ Over/Under tolerance
- ☐ Part Incorrect
- ☐ Part Lost/Missing
- ☐ Part Moved
- ☐ Positioned Wrong
- ☐ Power Loss/Surge
- ☐ Pressure/Forced
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other

Work Order ID 99247

April-04-13 7:28:24 AM

99247

Item ID: D205-634-041 **Accept** *N900040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Replacement Skidtube

Start Date: 4/04/13 **Start Qty:** 1.00 *1*

Required Date: 4/22/13 **Req'd Qty:** 1.00 *1*

Reference:

Cust Item ID:

Customer:

Run Start *NR1*

Stop *NR2*

Approvals: **Process Plan:** ____ **Date:** ____ **Tooling:** ____ **Date:** ____

QC: ____ **Date:** ____ **SPC (Y/N):** ____ **Date:** ____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120		0.00							
120						1	Ø	13-04-08	SAD
Skidtubes	**Memo**	0.00							
Skidtubes	1- Deburr ends and remove bending marks 2- Prepare tube for welding as per QSI 004								
130	QC5- Inspect part completeness to step on W/O	0.00							
130						1	Ø	13-04-08	DAS 18 8-89
QC	**Memo**	0.00							
Quality Control									

DQA: _____ Date: _____

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

- Skid-tube ☐
- Machining ☐
- Thermoforming ☐
- Large Fab ☐
- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐
- ☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	☐									
Equip/Tooling	☐									
Operator	☐									
Material	☐									
Setup	☐									
Other	☐									
Process	☐									
Supplier	☐									
Training	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

- ☐ Bending
- ☐ Centre Not Concentric to O/S
- ☐ Cracks
- ☐ Crushed/Crimped
- ☐ Cuffs
- ☐ Heat Treat
- ☐ Inspection Strip in Tube
- ☐ Ripples in Bend
- ☐ Torque Waves in Extrusion
- ☐ Turning Sequence
- ☐ Wave/Twist in Tube

General

- ☐ Bend
- ☐ BOM/Route
- ☐ Broken/Damaged
- ☐ Burrs
- ☐ Contamination
- ☐ Countersink
- ☐ Cut Too Short
- ☐ Drill Holes
- ☐ Drawing
- ☐ Finish
- ☐ Folio
- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete
- ☐ Instructions Incomplete/Unclear
- ☐ Maintenance
- ☐ Mislabeled
- ☐ Misread
- ☐ Offset
- ☐ Out of Calibration
- ☐ Out of Sequence
- ☐ Outside Dimensions
- ☐ Ovalized
- ☐ Over/Under tolerance
- ☐ Part Incorrect
- ☐ Part Lost/Missing
- ☐ Part Moved
- ☐ Positioned Wrong
- ☐ Power Loss/Surge
- ☐ Pressure/Forced
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other

Work Order ID 99247

April-04-13 7:28:24 AM

99247

Item ID: D205-634-041 **Accept** *N900040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Replacement Skidtube

Start Date: 4/04/13 **Start Qty:** 1.00 *1*

Required Date: 4/22/13 **Req'd Qty:** 1.00 *1*

Reference:

Cust Item ID:

Customer:

Run Start *NR1*

Stop *NR2*

Approvals: **Process Plan:** **Date:** **Tooling:** **Date:**

QC: **Date:** **SPC (Y/N):** **Date:**

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140		0.00							
140 Skidtubes									
Skidtubes	**Memo**	0.00							
	1-Weld step D2576 as per Dwg. D2580 and QSI 004 A/R Aluminum Rod M12224								
	2-Grind welds on step as per Dwg D2580								
	3- Insert D4202-1 spacer, swage as per QSI002 and trim/ grind flush per QSI002 and dwg. Hold x-bolt with DT9701 Use tube expander 1/2 x17G to start expantion and finish with 1/2 x 18G to achieve dwg dimention.								
	4-Drill holes for wearplates using DT 8217 & DT8937, 7.40" from most fwd saddle holes (ref only) Open holes to 19/64", adjust stopper not to hit web.Deburr								
	6-Drill pilot holes for aft cap using DT 8215Open holes to 0.208". Deburr								
	7-Drill pilot holes for Tow ring using DT8091, open to .640"and Deburr								
150	QC10- Inspect visual per QSI004- ground welds	0.00							
150 QC									
Quality Control	**Memo**	0.00							

7DEC 13-04-09

-DC 13/04/23

13-04-23 DAS 09 8-89

DQA: _____ Date: _____

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

- Skid-tube ☐
- Machining ☐
- Thermoforming ☐
- Large Fab ☐
- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐
- ☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	☐									
Equip/Tooling	☐									
Operator	☐									
Material	☐									
Setup	☐									
Other	☐									
Process	☐									
Supplier	☐									
Training	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

- ☐ Bending
- ☐ Centre Not Concentric to O/S
- ☐ Cracks
- ☐ Crushed/Crimped
- ☐ Cuffs
- ☐ Heat Treat
- ☐ Inspection Strip in Tube
- ☐ Ripples in Bend
- ☐ Torque Waves in Extrusion
- ☐ Turning Sequence
- ☐ Wave/Twist in Tube

General

- ☐ Bend
- ☐ BOM/Route
- ☐ Broken/Damaged
- ☐ Burrs
- ☐ Contamination
- ☐ Countersink
- ☐ Cut Too Short
- ☐ Drill Holes
- ☐ Drawing
- ☐ Finish
- ☐ Folio
- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete
- ☐ Instructions Incomplete/Unclear
- ☐ Maintenance
- ☐ Mislabeled
- ☐ Misread
- ☐ Offset
- ☐ Out of Calibration
- ☐ Out of Sequence
- ☐ Outside Dimensions
- ☐ Ovalized
- ☐ Over/Under tolerance
- ☐ Part Incorrect
- ☐ Part Lost/Missing
- ☐ Part Moved
- ☐ Positioned Wrong
- ☐ Power Loss/Surge
- ☐ Pressure/Forced
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other

Work Order ID 99247

April-04-13 7:28:24 AM

99247

Item ID: D205-634-041 **Accept** *N900040100* **Setup Start** *NS1*
Revision ID: **Stop** *NS2*
Item Name: Replacement Skidtube

Start Date: 4/04/13 **Start Qty:** 1.00 *1*
Required Date: 4/22/13 **Req'd Qty:** 1.00 *1*
Reference:

Cust Item ID:
Customer:

Run Start *NR1*
Stop *NR2*

Approvals: **Process Plan:** **Date:** **Tooling:** **Date:**
QC: **Date:** **SPC (Y/N):** **Date:**

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	QC5- Inspect part completeness to step on W/O	0.00				1			
160 QC Quality Control	**Memo**	0.00 DAS 27 13483							
170	Pressure Wash per QSI005 4.3	0.00				1		13424	
170 HandFinish Hand Finishing	**Memo** Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch and leave fwd cap out of solution.	0.00							
180	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00 7:50				1		13/04/24	
180 Powdercoat Powder Coating	**Memo** START TIME: OVEN TEMPERATURE: 320 FINISH TIME: 8:20	0.00							

W125064

DQA: _____ Date: _____

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

- Skid-tube ☐
- Machining ☐
- Thermoforming ☐
- Large Fab ☐
- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐
- ☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	☐									
Equip/Tooling	☐									
Operator	☐									
Material	☐									
Setup	☐									
Other	☐									
Process	☐									
Supplier	☐									
Training	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

- ☐ Bending
- ☐ Centre Not Concentric to O/S
- ☐ Cracks
- ☐ Crushed/Crimped
- ☐ Cuffs
- ☐ Heat Treat
- ☐ Inspection Strip in Tube
- ☐ Ripples in Bend
- ☐ Torque Waves in Extrusion
- ☐ Turning Sequence
- ☐ Wave/Twist in Tube

General

- ☐ Bend
- ☐ BOM/Route
- ☐ Broken/Damaged
- ☐ Burrs
- ☐ Contamination
- ☐ Countersink
- ☐ Cut Too Short
- ☐ Drill Holes
- ☐ Drawing
- ☐ Finish
- ☐ Folio
- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete
- ☐ Instructions Incomplete/Unclear
- ☐ Maintenance
- ☐ Mislabeled
- ☐ Misread
- ☐ Offset
- ☐ Out of Calibration
- ☐ Out of Sequence
- ☐ Outside Dimensions
- ☐ Ovalized
- ☐ Over/Under tolerance
- ☐ Part Incorrect
- ☐ Part Lost/Missing
- ☐ Part Moved
- ☐ Positioned Wrong
- ☐ Power Loss/Surge
- ☐ Pressure/Forced
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other _____

Work Order ID 99247

April-04-13 7:28:24 AM

99247

Item ID: D205-634-041 **Accept** *N9000040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Replacement Skidtube

Start Date: 4/04/13 **Start Qty:** 1.00 *1*

Required Date: 4/22/13 **Req'd Qty:** 1.00 *1*

Cust Item ID:

Customer:

Reference:

Run Start *NR1*

Stop *NR2*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190	QC3- Inspect Part Finish	0.00							
190									
QC	Memo	0.00				1x			13/04/25
Quality Control									

DQA: _____ Date: _____

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

- Skid-tube ☐
- Machining ☐
- Thermoforming ☐
- Large Fab ☐
- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐
- ☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	☐									
Equip/Tooling	☐									
Operator	☐									
Material	☐									
Setup	☐									
Other	☐									
Process	☐									
Supplier	☐									
Training	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

- ☐ Bending
- ☐ Centre Not Concentric to O/S
- ☐ Cracks
- ☐ Crushed/Crimped
- ☐ Cuffs
- ☐ Heat Treat
- ☐ Inspection Strip in Tube
- ☐ Ripples in Bend
- ☐ Torque Waves in Extrusion
- ☐ Turning Sequence
- ☐ Wave/Twist in Tube

General

- ☐ Bend
- ☐ BOM/Route
- ☐ Broken/Damaged
- ☐ Burrs
- ☐ Contamination
- ☐ Countersink
- ☐ Cut Too Short
- ☐ Drill Holes
- ☐ Drawing
- ☐ Finish
- ☐ Folio
- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete
- ☐ Instructions Incomplete/Unclear
- ☐ Maintenance
- ☐ Mislabeled
- ☐ Misread
- ☐ Offset
- ☐ Out of Calibration
- ☐ Out of Sequence
- ☐ Outside Dimensions
- ☐ Ovalized
- ☐ Over/Under tolerance
- ☐ Part Incorrect
- ☐ Part Lost/Missing
- ☐ Part Moved
- ☐ Positioned Wrong
- ☐ Power Loss/Surge
- ☐ Pressure/Forced
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other _____

Item ID: D205-634-041 **Accept** *N900040100* **Setup Start** *NS1*
Revision ID: **Stop** *NS2*
Item Name: Replacement Skidtube

Start Date: 4/04/13 **Start Qty:** 1.00 *1*
Required Date: 4/22/13 **Req'd Qty:** 1.00 *1*
Reference:

Cust Item ID:
Customer:

Approvals: **Process Plan:** **Date:** **Tooling:** **Date:**
QC: **Date:** **SPC (Y/N):** **Date:**

Run Start *NR1*
Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
200		0.00				1x	0		13/04/25
200 HandFinish		0.00							

Hand Finishing

Memo

1-Install inserts & wearplates & Gaskets as per Dwg. D2580. Use a drop of Sikaflex on insert holes before installing wearplates
A/R Sikaflex-291 AA12458
Sikaflex expire date: 13107

2-Coat D2594-3 O' rings with Petroleum Jelly and install on D2594-1 plugs as per Dwg D2580

3-Inspect for foreign object per QSI 024

4-Install 2855 Aft Cap as per Dwg D2580 and seal Fwd Step & Aft Cap with Sikaflex. Clean excess adhesive
A/R Sikaflex-291 AA12458
Sikaflex expire date: 13107

5-Wing Walk as per Dwg D2580 and QSI 005 4.4
Batch: AA16518

DQA: _____ Date: _____

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

- Skid-tube ☐
- Machining ☐
- Thermoforming ☐
- Large Fab ☐
- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	☐									
Equip/Tooling	☐									
Operator	☐									
Material	☐									
Setup	☐									
Other	☐									
Process	☐									
Supplier	☐									
Training	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

- ☐ Bending
- ☐ Centre Not Concentric to O/S
- ☐ Cracks
- ☐ Crushed/Crimped
- ☐ Cuffs
- ☐ Heat Treat
- ☐ Inspection Strip in Tube
- ☐ Ripples in Bend
- ☐ Torque Waves in Extrusion
- ☐ Turning Sequence
- ☐ Wave/Twist in Tube

General

- ☐ Bend
- ☐ BOM/Route
- ☐ Broken/Damaged
- ☐ Burrs
- ☐ Contamination
- ☐ Countersink
- ☐ Cut Too Short
- ☐ Drill Holes
- ☐ Drawing
- ☐ Finish
- ☐ Folio
- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete
- ☐ Instructions Incomplete/Unclear
- ☐ Maintenance
- ☐ Mislabeled
- ☐ Misread
- ☐ Offset
- ☐ Out of Calibration
- ☐ Out of Sequence
- ☐ Outside Dimensions
- ☐ Ovalized
- ☐ Over/Under tolerance
- ☐ Part Incorrect
- ☐ Part Lost/Missing
- ☐ Part Moved
- ☐ Positioned Wrong
- ☐ Power Loss/Surge
- ☐ Pressure/Forced
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other

Work Order ID 99247

April-04-13 7:28:24 AM

99247

Item ID: D205-634-041 **Accept** *N900040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Replacement Skidtube

Start Date: 4/04/13 **Start Qty:** 1.00 *1* **Cust Item ID:**

Required Date: 4/22/13 **Req'd Qty:** 1.00 *1* **Customer:**

Reference:

Run Start *NR1*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____ **Stop** *NR2*

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
210	QC5- Inspect part completeness to step on W/O	0.00	DAS 27			1			
210 QC Quality Control	**Memo** Inspect Aft Cap, Fwd Step and Wing Walk of work to Current Step Inspect for Foreign objects per QSI 024	0.00							
220	Packaging	0.00				1		13-4-30	
220 Packaging Packaging	**Memo** Identify and pack for shipping as per PPPD205-634-041 Location:_____ PPP Rev:_____	0.00	PPP 99431						
230	QC21- Final Inspection - Work Order Release	0.00				MLS	13-04-30		
230 QC Quality Control	**Memo**	0.00							

13-04-30

DQA: _____ Date: _____

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

- Skid-tube ☐
- Machining ☐
- Thermoforming ☐
- Large Fab ☐
- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	☐									
Equip/Tooling	☐									
Operator	☐									
Material	☐									
Setup	☐									
Other	☐									
Process	☐									
Supplier	☐									
Training	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

- ☐ Bending
- ☐ Centre Not Concentric to O/S
- ☐ Cracks
- ☐ Crushed/Crimped
- ☐ Cuffs
- ☐ Heat Treat
- ☐ Inspection Strip in Tube
- ☐ Ripples in Bend
- ☐ Torque Waves in Extrusion
- ☐ Turning Sequence
- ☐ Wave/Twist in Tube

General

- ☐ Bend
- ☐ BOM/Route
- ☐ Broken/Damaged
- ☐ Burrs
- ☐ Contamination
- ☐ Countersink
- ☐ Cut Too Short
- ☐ Drill Holes
- ☐ Drawing
- ☐ Finish
- ☐ Folio
- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete
- ☐ Instructions Incomplete/Unclear
- ☐ Maintenance
- ☐ Mislabeled
- ☐ Misread
- ☐ Offset
- ☐ Out of Calibration
- ☐ Out of Sequence
- ☐ Outside Dimensions
- ☐ Ovalized
- ☐ Over/Under tolerance
- ☐ Part Incorrect
- ☐ Part Lost/Missing
- ☐ Part Moved
- ☐ Positioned Wrong
- ☐ Power Loss/Surge
- ☐ Pressure/Forced
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other

Picklist Print

April-04-13 7:28:27 AM

Work Order ID: 99247 *99247*

Parent Item: D205-634-041 *D205-634-041*

Parent Item Name: Replacement Skidtube

Start Date: 4/04/13 **Required Date:** 4/22/13

Start Qty: 1.00 **Required Qty:** 1.00

Comments: IPP Rev:N 02.08.28 FP was QC5 in Step 27: Added QC5 to Step 30
KJ IPP Rev P 10.02.19
per PAR09-043 EC verified by:DD
IPP Rev. O 06.02.28 Added paperwork EC
IPP Rev:P 07-07-09 SS Wearplates & Gaskets JLM IPP Rev:Q
10.12.01 as per chg003 DD verf:EC IPP REV:R 12.01.23 AS
PER ECN11-684 VERF:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D4202-1 *D4202-1* Spacer		Manufactured	No			140	Each	123.0000	20 **	20		DC 13/04/23	
				Location	**Loc Qty**	**Loc Code**							
				LG	24	B98699				20			
				96906	24								
				LG002	99								
				97447	99								
D2580-1 *D2580-1* 205 Bent Tube		Manufactured	No			110	Each	10.0000	1 **	1		SAD 1304-08	
				Location	**Loc Qty**	**Loc Code**							
				LG	10								
				98499	2								
				99066	4								
				99199	4	B99065				1			
D2576-3 *D2576-3* Step (maching detail)		Manufactured	No			140	Each	62.0000	1 **	1		JEL3-04-09	
				Location	**Loc Qty**	**Loc Code**							
				LG002	62								
				86973	12					1			
				96474	50								

DQA: _____ Date: _____

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

- Skid-tube ☐
- Machining ☐
- Thermoforming ☐
- Large Fab ☐
- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐
- ☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data										
Equip/Tooling										
Operator										
Material										
Setup										
Other										
Process										
Supplier										
Training										
Unapproved										

FAULT CATEGORY

Landing Gear

- ☐ Bending
- ☐ Centre Not Concentric to O/S
- ☐ Cracks
- ☐ Crushed/Crimped
- ☐ Cuffs
- ☐ Heat Treat
- ☐ Inspection Strip in Tube
- ☐ Ripples in Bend
- ☐ Torque Waves in Extrusion
- ☐ Turning Sequence
- ☐ Wave/Twist in Tube

General

- ☐ Bend
- ☐ BOM/Route
- ☐ Broken/Damaged
- ☐ Burrs
- ☐ Contamination
- ☐ Countersink
- ☐ Cut Too Short
- ☐ Drill Holes
- ☐ Drawing
- ☐ Finish
- ☐ Folio
- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete
- ☐ Instructions Incomplete/Unclear
- ☐ Maintenance
- ☐ Mislabeled
- ☐ Misread
- ☐ Offset
- ☐ Out of Calibration
- ☐ Out of Sequence
- ☐ Outside Dimensions
- ☐ Ovalized
- ☐ Over/Under tolerance
- ☐ Part Incorrect
- ☐ Part Lost/Missing
- ☐ Part Moved
- ☐ Positioned Wrong
- ☐ Power Loss/Surge
- ☐ Pressure/Forced
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other _____

Picklist Print

April-04-13 7:28:27 AM

Work Order ID: 99247 *99247*

Parent Item: D205-634-041 *D205-634-041*

Parent Item Name: Replacement Skidtube

Start Date: 4/04/13 **Required Date:** 4/22/13

Start Qty: 1.00 **Required Qty:** 1.00

D2855		Manufactured	No		200	Each	109.0000	1	1	
D2855								**		13/04/25
Cap										

Location		Loc Qty	Loc Code	
FP001		109		
	73347	1		
	86441	30		
	89802	40		
	93143	12		
	94019	26		X1

AN3-5A		Purchased	No		200	Each	1,035.000	2	2	
AN3-5A								**		13/04/25
Bolt										

Location		Loc Qty	Loc Code	
GA		120		
	117423	120	MS122806	X2
ST350		22		
	120187	22		
ST512		893		
	122416	93		
	124561	800		

AN960JD10L	NAS1149D0332J	Purchased	No		200	Each	0.0000	2	2	
AN960JD10L							MS25041	**	(X2)	13/04/25
Washer										

DQA: _____ Date: _____

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

- Skid-tube ☐
- Machining ☐
- Thermoforming ☐
- Large Fab ☐
- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐
- ☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	☐									
Equip/Tooling	☐									
Operator	☐									
Material	☐									
Setup	☐									
Other	☐									
Process	☐									
Supplier	☐									
Training	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

- ☐ Bending
- ☐ Centre Not Concentric to O/S
- ☐ Cracks
- ☐ Crushed/Crimped
- ☐ Cuffs
- ☐ Heat Treat
- ☐ Inspection Strip in Tube
- ☐ Ripples in Bend
- ☐ Torque Waves in Extrusion
- ☐ Turning Sequence
- ☐ Wave/Twist in Tube

General

- ☐ Bend
- ☐ BOM/Route
- ☐ Broken/Damaged
- ☐ Burrs
- ☐ Contamination
- ☐ Countersink
- ☐ Cut Too Short
- ☐ Drill Holes
- ☐ Drawing
- ☐ Finish
- ☐ Folio
- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete
- ☐ Instructions Incomplete/Unclear
- ☐ Maintenance
- ☐ Mislabeled
- ☐ Misread
- ☐ Offset
- ☐ Out of Calibration
- ☐ Out of Sequence
- ☐ Outside Dimensions
- ☐ Ovalized
- ☐ Over/Under tolerance
- ☐ Part Incorrect
- ☐ Part Lost/Missing
- ☐ Part Moved
- ☐ Positioned Wrong
- ☐ Power Loss/Surge
- ☐ Pressure/Forced
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other _____

Picklist Print

April-04-13 7:28:27 AM

Work Order ID: 99247

99247

Parent Item: D205-634-041

D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 4/04/13 **Required Date:** 4/22/13

Start Qty: 1.00 **Required Qty:** 1.00

ALS7-1032-130 Purchased No 200 Each 483.0000 50 50

ALS7-1032-130 ✓

Insert

** (x50) JL 13/04/25

M124163

Location	Loc Qty	Loc Code	
FG	100		
121444	100		
FP001	315		
117717	27		
118966	22		
119530	73		
119775	2		
120181	12		
121444	176		
122474	3		
ST280	68		
122763	18		
124226	50		

AN3C4A Purchased No 200 Each 1,350.000 50 50

AN3C4A

BOLT

** JL 13/04/25

Location	Loc Qty	Loc Code	
FG	20		
122814	20		
ST512	1330		
123759	1212		V56
124221	116		
124805	2		

AN960C10L NAS1149C0332 R Purchased No 200 Each 0.0000 50 50

AN960C10L ✓

washer

M126268

** (x50) JL 13/04/25

DQA: _____ Date: _____

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

- Skid-tube ☐
- Machining ☐
- Thermoforming ☐
- Large Fab ☐
- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐
- ☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	☐									
Equip/Tooling	☐									
Operator	☐									
Material	☐									
Setup	☐									
Other	☐									
Process	☐									
Supplier	☐									
Training	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

- ☐ Bending
- ☐ Centre Not Concentric to O/S
- ☐ Cracks
- ☐ Crushed/Crimped
- ☐ Cuffs
- ☐ Heat Treat
- ☐ Inspection Strip in Tube
- ☐ Ripples in Bend
- ☐ Torque Waves in Extrusion
- ☐ Turning Sequence
- ☐ Wave/Twist in Tube

General

- ☐ Bend
- ☐ BOM/Route
- ☐ Broken/Damaged
- ☐ Burrs
- ☐ Contamination
- ☐ Countersink
- ☐ Cut Too Short
- ☐ Drill Holes
- ☐ Drawing
- ☐ Finish
- ☐ Folio
- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete
- ☐ Instructions Incomplete/Unclear
- ☐ Maintenance
- ☐ Mislabeled
- ☐ Misread
- ☐ Offset
- ☐ Out of Calibration
- ☐ Out of Sequence
- ☐ Outside Dimensions
- ☐ Ovalized
- ☐ Over/Under tolerance
- ☐ Part Incorrect
- ☐ Part Lost/Missing
- ☐ Part Moved
- ☐ Positioned Wrong
- ☐ Power Loss/Surge
- ☐ Pressure/Forced
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other

Picklist Print

April-04-13 7:28:27 AM

Work Order ID: 99247

99247

Parent Item: D205-634-041

D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 4/04/13 **Required Date:** 4/22/13

Start Qty: 1.00 **Required Qty:** 1.00

D3566-13	Manufactured	No		200	Each	38.0000	1	1	
D3566-13							**		13/04/25
Gasket									

Location	Loc Qty	Loc Code	
FG	4		
89050	2		
92482	2		
FP001	28		
98271	8		
98908	20		X1
FP002	6		
84880	6		

D3566-5	Manufactured	No		200	Each	14.0000	1	1	
D3566-5							**		13/04/26
Gasket									

Location	Loc Qty	Loc Code	
FG	4	B98965	X1
89219	2		
94119	2		
FP001	10		
80374	1		
84881	1		
98373	8		

DQA: _____ Date: _____

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

- Skid-tube ☐
- Machining ☐
- Thermoforming ☐
- Large Fab ☐
- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	☐									
Equip/Tooling	☐									
Operator	☐									
Material	☐									
Setup	☐									
Other	☐									
Process	☐									
Supplier	☐									
Training	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

- ☐ Bending
- ☐ Centre Not Concentric to O/S
- ☐ Cracks
- ☐ Crushed/Crimped
- ☐ Cuffs
- ☐ Heat Treat
- ☐ Inspection Strip in Tube
- ☐ Ripples in Bend
- ☐ Torque Waves in Extrusion
- ☐ Turning Sequence
- ☐ Wave/Twist in Tube

General

- ☐ Bend
- ☐ BOM/Route
- ☐ Broken/Damaged
- ☐ Burrs
- ☐ Contamination
- ☐ Countersink
- ☐ Cut Too Short
- ☐ Drill Holes
- ☐ Drawing
- ☐ Finish
- ☐ Folio
- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete
- ☐ Instructions Incomplete/Unclear
- ☐ Maintenance
- ☐ Mislabeled
- ☐ Misread
- ☐ Offset
- ☐ Out of Calibration
- ☐ Out of Sequence
- ☐ Outside Dimensions
- ☐ Ovalized
- ☐ Over/Under tolerance
- ☐ Part Incorrect
- ☐ Part Lost/Missing
- ☐ Part Moved
- ☐ Positioned Wrong
- ☐ Power Loss/Surge
- ☐ Pressure/Forced
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other

Picklist Print

April-04-13 7:28:27 AM

Work Order ID: 99247 *99247*

Parent Item: D205-634-041 *D205-634-041*

Parent Item Name: Replacement Skidtube

Start Date: 4/04/13 **Required Date:** 4/22/13

Start Qty: 1.00 **Required Qty:** 1.00

D3566-1	Manufactured	No		200	Each	31.0000	2	2	4/13/25
D3566-1							**		
Gasket									

Location	Loc Qty	Loc Code	
FG	12	B99344	x 2
89051	2		
96430	2		
96575	8		
FP001	19		
68924	2		
80919	2		
81619	3		
84879	1		
92838	1		
98397	10		

D3564-11	Manufactured	No		200	Each	15.0000	1	1	
D3564-11							**		4/13/25
Wearshoe									

Location	Loc Qty	Loc Code	
FG	6	B98948	x1
77056	4		
85473	2		
FP001	2		
98331	2		
FP002	7		
89808	1		
98331	6		

DQA: _____ Date: _____

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

- Skid-tube ☐
- Machining ☐
- Thermoforming ☐
- Large Fab ☐
- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐
- ☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data										
Equip/Tooling										
Operator										
Material										
Setup										
Other										
Process										
Supplier										
Training										
Unapproved										

FAULT CATEGORY

Landing Gear

- ☐ Bending
- ☐ Centre Not Concentric to O/S
- ☐ Cracks
- ☐ Crushed/Crimped
- ☐ Cuffs
- ☐ Heat Treat
- ☐ Inspection Strip in Tube
- ☐ Ripples in Bend
- ☐ Torque Waves in Extrusion
- ☐ Turning Sequence
- ☐ Wave/Twist in Tube

General

- ☐ Bend
- ☐ BOM/Route
- ☐ Broken/Damaged
- ☐ Burrs
- ☐ Contamination
- ☐ Countersink
- ☐ Cut Too Short
- ☐ Drill Holes
- ☐ Drawing
- ☐ Finish
- ☐ Folio
- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete
- ☐ Instructions Incomplete/Unclear
- ☐ Maintenance
- ☐ Mislabeled
- ☐ Misread
- ☐ Offset
- ☐ Out of Calibration
- ☐ Out of Sequence
- ☐ Outside Dimensions
- ☐ Ovalized
- ☐ Over/Under tolerance
- ☐ Part Incorrect
- ☐ Part Lost/Missing
- ☐ Part Moved
- ☐ Positioned Wrong
- ☐ Power Loss/Surge
- ☐ Pressure/Forced
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other _____

Picklist Print

April-04-13 7:28:27 AM

Work Order ID: 99247 *99247*

Parent Item: D205-634-041 *D205-634-041*

Parent Item Name: Replacement Skidtube

Start Date: 4/04/13 **Required Date:** 4/22/13

Start Qty: 1.00 **Required Qty:** 1.00

D3564-13	Manufactured	No		200	Each	15.0000	1	1	
D3564-13							**		13/04/25
Wearshoe									

Location	Loc Qty	Loc Code	
FG	1	B99023	X1
89044	1		
FP001	12		
98439	12		
FP002	2		
71594	1		
92546	1		

D3564-9	Manufactured	No		200	Each	13.0000	1	1	
D3564-9							**		13/04/25
Wearshoe									

Location	Loc Qty	Loc Code	
FG	6	B98987	X1
76950	4		
88407	2		
FP002	7		
67590	4		
69943	1		
82255	1		
88407	1		

DQA: _____ Date: _____

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

Rework ☐
Scrap ☐
Use-as-is ☐
Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐ Crosstube ☐ Water Jet ☐ Engineering ☐
Machining ☐ Small Fab ☐ Prod. Eng. Coor. ☐ Quality ☐
Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐
Large Fab ☐ Composite ☐ Supplier ☐ ☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	☐									
Equip/Tooling	☐									
Operator	☐									
Material	☐									
Setup	☐									
Other	☐									
Process	☐									
Supplier	☐									
Training	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

☐ Bending
☐ Centre Not Concentric to O/S
☐ Cracks
☐ Crushed/Crimped
☐ Cuffs
☐ Heat Treat
☐ Inspection Strip in Tube
☐ Ripples in Bend
☐ Torque Waves in Extrusion
☐ Turning Sequence
☐ Wave/Twist in Tube

General

☐ Bend
☐ BOM/Route
☐ Broken/Damaged
☐ Burrs
☐ Contamination
☐ Countersink
☐ Cut Too Short
☐ Drill Holes
☐ Drawing
☐ Finish
☐ Folio
☐ Grain
☐ Hardware
☐ Inspection Incomplete
☐ Instructions Incomplete/Unclear
☐ Maintenance
☐ Mislabeled
☐ Misread
☐ Offset
☐ Out of Calibration
☐ Out of Sequence
☐ Outside Dimensions
☐ Ovalized
☐ Over/Under tolerance
☐ Part Incorrect
☐ Part Lost/Missing
☐ Part Moved
☐ Positioned Wrong
☐ Power Loss/Surge
☐ Pressure/Forced
☐ Temperature/Cure
☐ Weld
☐ Wrong Stock Pulled
☐ Other

Picklist Print

April-04-13 7:28:27 AM

Work Order ID: 99247

99247

Parent Item: D205-634-041

D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 4/04/13 **Required Date:** 4/22/13

Start Qty: 1.00 **Required Qty:** 1.00

D3564-5	Manufactured	No		200	Each	14.0000	1	1

D3564-5

Wearshoe

**

Location	Loc Qty	Loc Code
FG	4	B98935 x1
34806	2	
89048	2	
FP002	10	
85475	4	
98311	6	

D2594-3	Manufactured	No		200	Each	777.0000	16	16

D2594-3

O-Ring, 205 Skidtube

**

Location	Loc Qty	Loc Code
FP001	777	
65518	41	
79496	234	
79755	2	
97671	500	V16

DQA: _____ Date: _____

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

- Skid-tube ☐
- Machining ☐
- Thermoforming ☐
- Large Fab ☐
- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐
- ☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	☐									
Equip/Tooling	☐									
Operator	☐									
Material	☐									
Setup	☐									
Other	☐									
Process	☐									
Supplier	☐									
Training	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

- ☐ Bending
- ☐ Centre Not Concentric to O/S
- ☐ Cracks
- ☐ Crushed/Crimped
- ☐ Cuffs
- ☐ Heat Treat
- ☐ Inspection Strip in Tube
- ☐ Ripples in Bend
- ☐ Torque Waves in Extrusion
- ☐ Turning Sequence
- ☐ Wave/Twist in Tube

General

- ☐ Bend
- ☐ BOM/Route
- ☐ Broken/Damaged
- ☐ Burrs
- ☐ Contamination
- ☐ Countersink
- ☐ Cut Too Short
- ☐ Drill Holes
- ☐ Drawing
- ☐ Finish
- ☐ Folio
- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete
- ☐ Instructions Incomplete/Unclear
- ☐ Maintenance
- ☐ Mislabeled
- ☐ Misread
- ☐ Offset
- ☐ Out of Calibration
- ☐ Out of Sequence
- ☐ Outside Dimensions
- ☐ Ovalized
- ☐ Over/Under tolerance
- ☐ Part Incorrect
- ☐ Part Lost/Missing
- ☐ Part Moved
- ☐ Positioned Wrong
- ☐ Power Loss/Surge
- ☐ Pressure/Forced
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other

Picklist Print

April-04-13 7:28:27 AM

Work Order ID: 99247

99247

Parent Item: D205-634-041

D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 4/04/13 **Required Date:** 4/22/13

Start Qty: 1.00 **Required Qty:** 1.00

D2594-1	Manufactured	No	200	Each	381.0000	16	16	

D2594-1

Plug, 205 Skidtube

**

Location	Loc Qty	Loc Code
FP001	354	B98464
73401	30	
74442	92	B99374
79495	28	
88509	17	
88922	2	
91949	7	
92554	1	
92862	80	
97250	36	
97987	61	
FP-001	27	
42807	27	

DQA: _____ Date: _____

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

- Skid-tube ☐
- Machining ☐
- Thermoforming ☐
- Large Fab ☐
- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐
- ☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	☐									
Equip/Tooling	☐									
Operator	☐									
Material	☐									
Setup	☐									
Other	☐									
Process	☐									
Supplier	☐									
Training	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

- ☐ Bending
- ☐ Centre Not Concentric to O/S
- ☐ Cracks
- ☐ Crushed/Crimped
- ☐ Cuffs
- ☐ Heat Treat
- ☐ Inspection Strip in Tube
- ☐ Ripples in Bend
- ☐ Torque Waves in Extrusion
- ☐ Turning Sequence
- ☐ Wave/Twist in Tube

General

- ☐ Bend
- ☐ BOM/Route
- ☐ Broken/Damaged
- ☐ Burrs
- ☐ Contamination
- ☐ Countersink
- ☐ Cut Too Short
- ☐ Drill Holes
- ☐ Drawing
- ☐ Finish
- ☐ Folio
- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete
- ☐ Instructions Incomplete/Unclear
- ☐ Maintenance
- ☐ Mislabeled
- ☐ Misread
- ☐ Offset
- ☐ Out of Calibration
- ☐ Out of Sequence
- ☐ Outside Dimensions
- ☐ Ovalized
- ☐ Over/Under tolerance
- ☐ Part Incorrect
- ☐ Part Lost/Missing
- ☐ Part Moved
- ☐ Positioned Wrong
- ☐ Power Loss/Surge
- ☐ Pressure/Forced
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other

LIST OF MATERIALS

ITEM	QTY -041	QTY -045	QTY -047	PART NUMBER	DESCRIPTION
1	X			D2580-041	SKIDTUBE ASSEMBLY
2		X		D2580-045	SKIDTUBE ASSEMBLY
3			X	D2580-047	SKIDTUBE ASSEMBLY
4	1	1	1	D2500-1-190	EXTRUSION
5			16	D2570	BUSHING
6	1	1	1	D2576-3	STEP
7	20	24	25	D2579	SPACER
8	16	16	8	D2594-1	PLUG
9	16	16	8	D2594-3	O-RING
10	1	1	1	D2596	205 WEB
11	1	1	1	D2855	AFT CAP
12	1	1		D3564-5	WEARSHOE
13	1	1		D3564-9	WEARSHOE
14	1	1		D3564-11	WEARSHOE
15	1	1		D3564-13	WEARSHOE
16	2	2		D3566-1	GASKET
17	1	1		D3566-5	GASKET
18	1	1		D3566-13	GASKET
19			1	D4406-041	WEARPLATE ASSEMBLY
20			1	D4406-043	WEARPLATE ASSEMBLY
21	50	50		ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or AELS-1032-130	INSERT
22	50	50		AN3C4A	BOLT
23	2	2	2	AN3-5A	BOLT
24			8	AN4-45A	BOLT
25	50	50		NAS1149C0332R	WASHER (AN960C10L)
26	2	2	2	NAS1149D0332J	WASHER (AN960JD10L)
27			8	MS21042-4	NUT (OR MS21042L4)

GENERAL NOTES:

1) MATERIAL: N/A
2) FINISH: CHEMICAL CONVERSION PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB
 POWDER COAT ASSEMBLY (-041/-047) GLOSS WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
 POWDER COAT ASSEMBLY (-045) GREEN SANDEX (REF 4.3.5.8) PER DART QSI 005 4.3
 BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4.
3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
4) UNITS: INCHES UNLESS OTHERWISE NOTED.
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
6) IDENTIFICATION: NONE
7) WEIGHT: D2580-041 = 34.5 lbs
 D2580-045 = 34.5 lbs
 D2580-047 = 37.7 lbs
8) WELDING PER DART QSI 004.
9) INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
10) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
11) USE DART DRILL TEMPLATE DT8217 & DT8937 ONLY FOR D2580-041/-045 TO LOCATE AND DRILL ∅0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTIONS B-B AND F-F (50 PLACES) AFTER FINISH. INSTALL AN3C4A BOLTS AND NAS1149C0332R WASHERS WITH SIKAFLEX-241/-291.
12) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES FOR D2580-041/-045 AND 8 PLACES FOR D2580-047)
13) IT IS ACCEPTABLE TO GRIND A RELIEF IN THE D2855 AFT CAP TO PREVENT INTERFERENCE WITH THE SPACER AT THIS LOCATION

DEO ATTACHED

RELEASED
2011 -08- 29

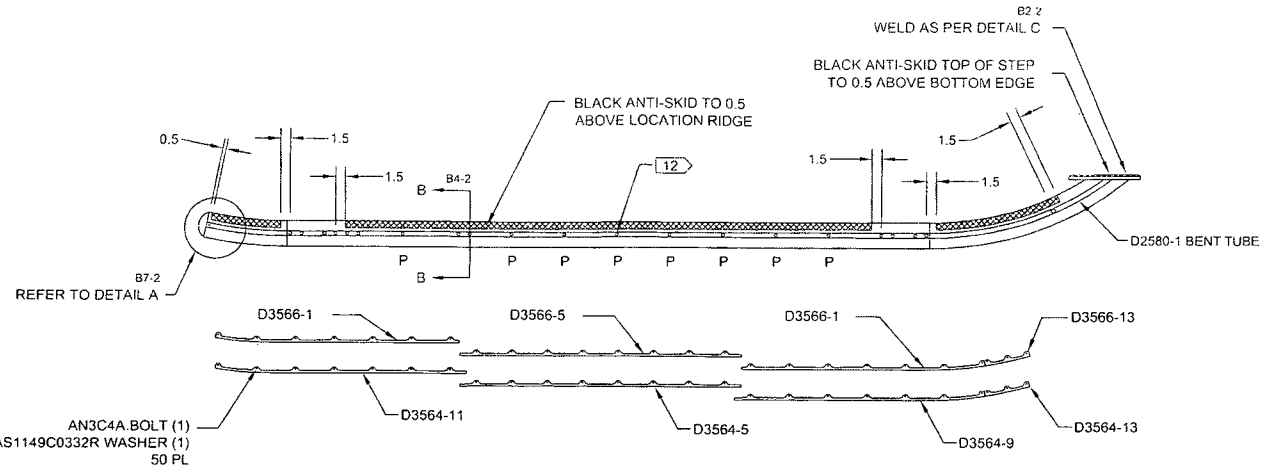
99247 MLJ
13-04-04

REV.	DESCRIPTION	BY	DATE
E	ADD D2580-047 (ZN C4-7) AND D2580-7 (ZN B3-8); INCLUDED DEO D2580-D-1; REFORMATTED DRAWING TO CURRENT STANDARDS; DT8217 & DT8937 WAS TD2577-205 (ZN C4-1)	RF	11.06.21
D	CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 9124/ 9183	PH	07.04.05
C	REDRAWN, INCLUDED DEO 9094/ 9097	CP	98.08.26
B	AS MANUFACTURED	DS	96.12.02
A	NEW ISSUE	DS	96.09.16

DESIGN		DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
DRAWN	RF	
CHECKED		DRAWING NO. D2580 — REV. E — SHEET 1 OF 8
MFG. APPR.		
APPROVED		TITLE — SCALE
DE APPR.		205 SKIDTUBE ASSEMBLY — NTS
DATE	11.06.21	

COPYRIGHT © 1996 BY DART AEROSPACE LTD
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

99247

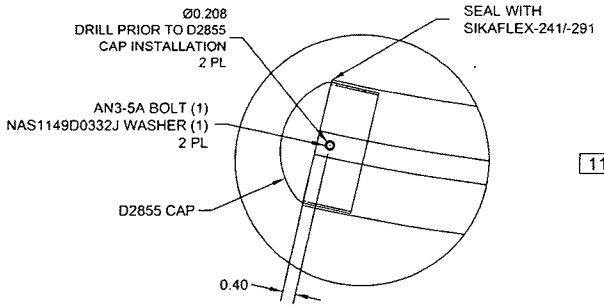


D2580-041 ASSEMBLY DETAIL

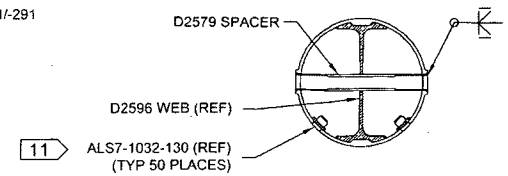
DEO ATTACHED

RELEASED
2011-08-29

DETAIL A C7-2
SCALE 5X

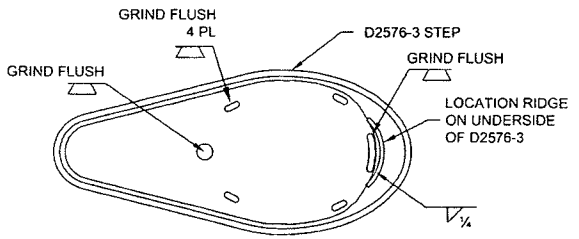


SECTION B-B D5-2
SCALE 5X



AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:
1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (20 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C'BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP

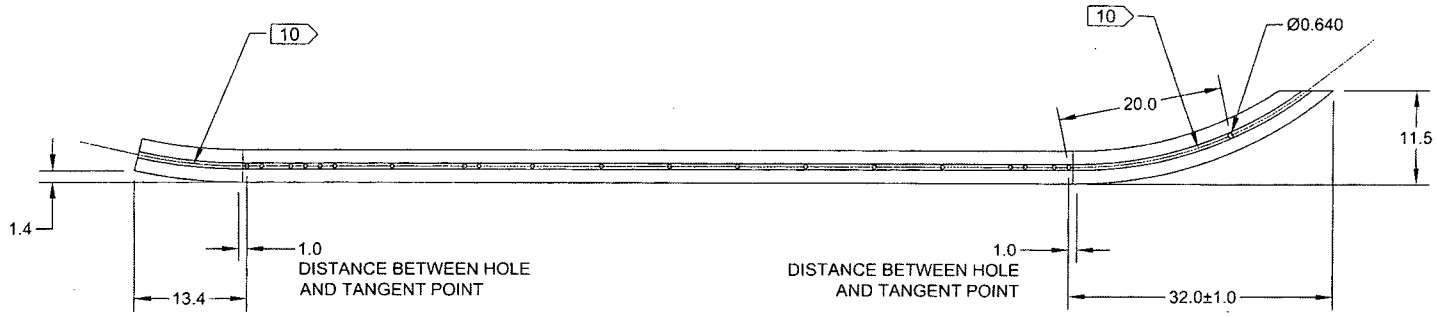
DETAIL C D3-2
SCALE 5X



DESIGN		**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA
DRAWN	RF	
CHECKED		DRAWING NO. D2580 REV. E
MFG. APPR.		SHEET 2 OF 8
APPROVED		TITLE: 205 SKIDTUBE ASSEMBLY SCALE: NTS
DE APPR.		
DATE	11.06.21	

COPYRIGHT © 1996 BY DART AEROSPACE LTD
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD

99247



D2580-1 BENT TUBE
(MAKE FROM D2580-101 TUBE)

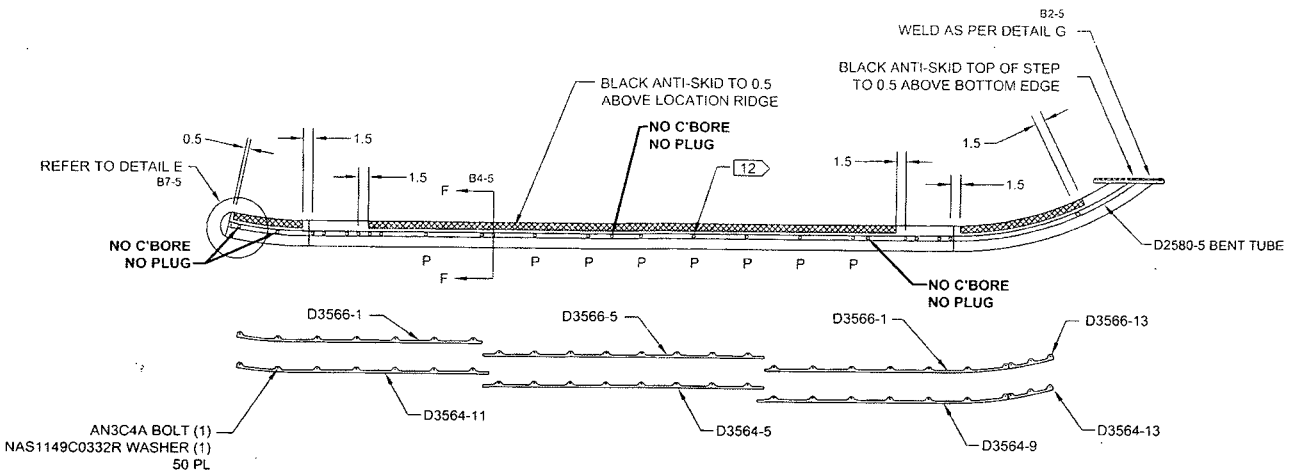
DEO ATTACHED

RELEASED
2011-08-29

DESIGN		**DART AEROSPACE LTD**	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. E
MFG. APPR.		D2580	SHEET 3 OF 8
APPROVED		TITLE	SCALE
DE APPR.		205 SKIDTUBE ASSEMBLY	NTS
DATE	11.06.21		

COPYRIGHT © 1996 BY DART AEROSPACE LTD
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

09247

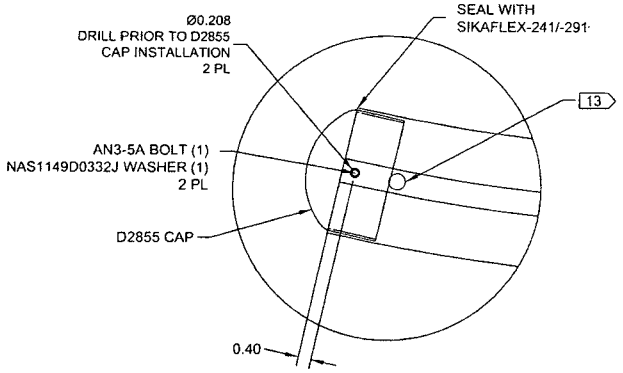


D2580-045 ASSEMBLY DETAIL

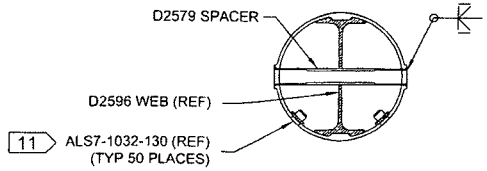
DEO ATTACHED

RELEASED
2011 -08- 29

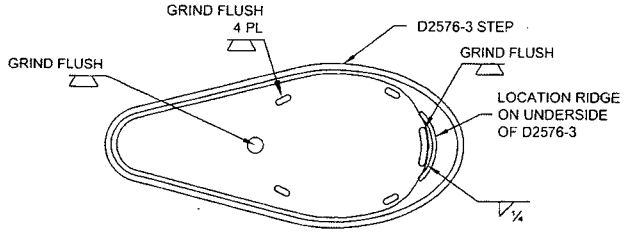
DETAIL E D7-5
SCALE 5X



SECTION F-F D5-5
SCALE 5X



DETAIL G D3-5
SCALE 5X

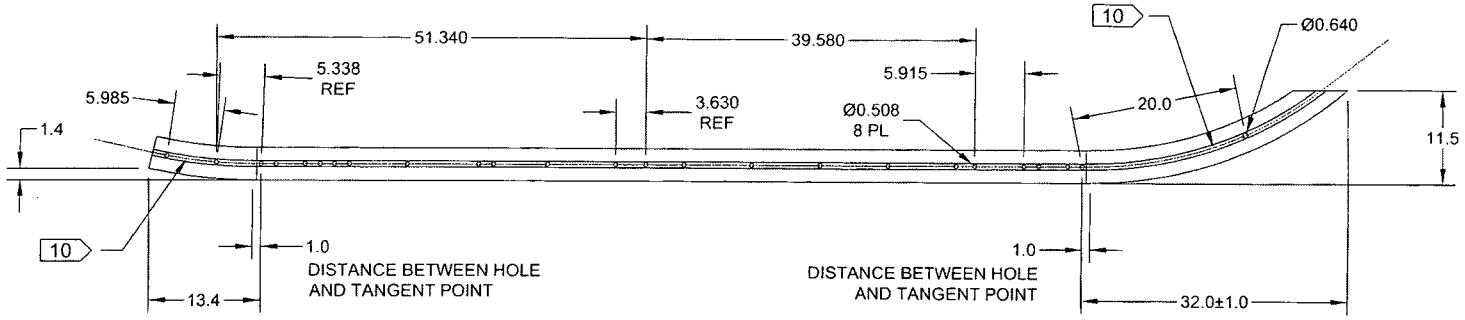


AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:
1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (24 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C'BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP

DESIGN		**DART AEROSPACE LTD**	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. E
MFG. APPR.		D2580	SHEET 4 OF 8
APPROVED		TITLE	SCALE
DE APPR.		205 SKIDTUBE ASSEMBLY	NTS
DATE	11.06.21		

COPYRIGHT © 1996 BY DART AEROSPACE LTD
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD

99247



D2580-5 BENT TUBE
(MAKE FROM D2580-101 TUBE)

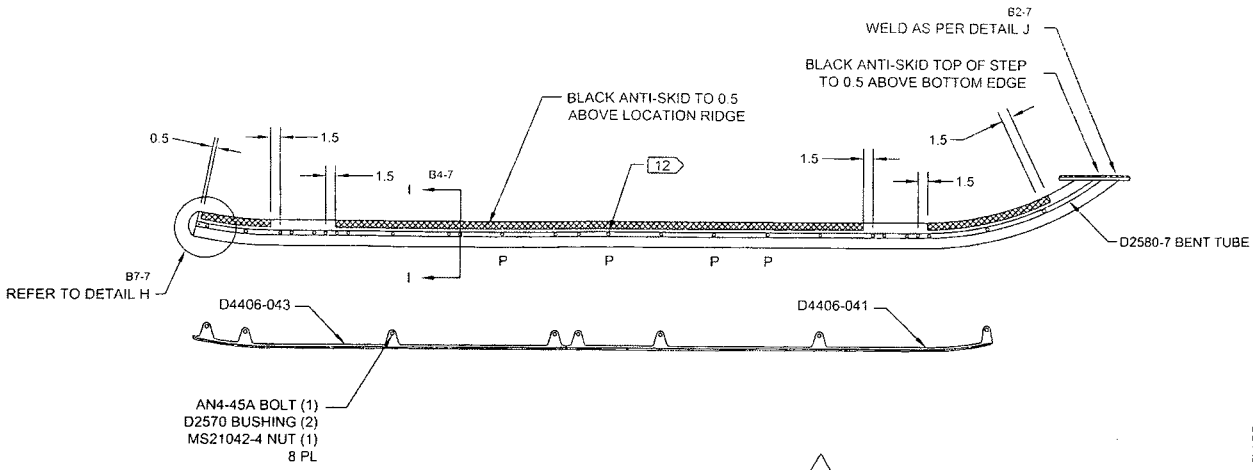
DEO ATTACHED

RELEASED
2011 -08- 29

DESIGN		DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. E
MFG. APPR.		D2580	SHEET 5 OF 8
APPROVED		TITLE	SCALE
DE APPR.		205 SKIDTUBE ASSEMBLY	NTS
DATE	11.06.21		

COPYRIGHT © 1996 BY DART AEROSPACE LTD
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD

99247

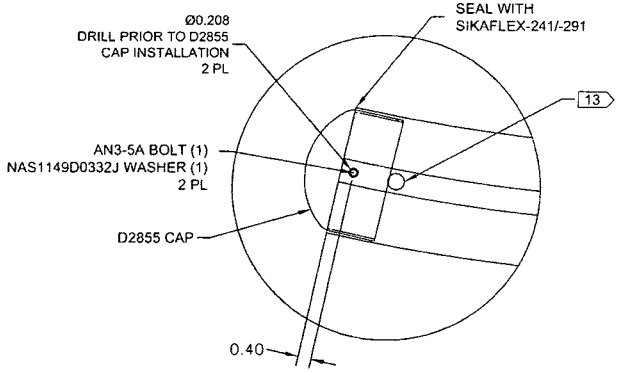


D2580-047 ASSEMBLY DETAIL (E)

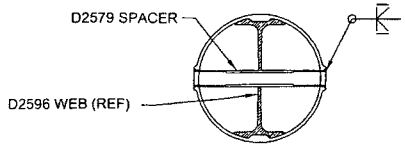
DEO ATTACHED

RELEASED
2011 -08- 29

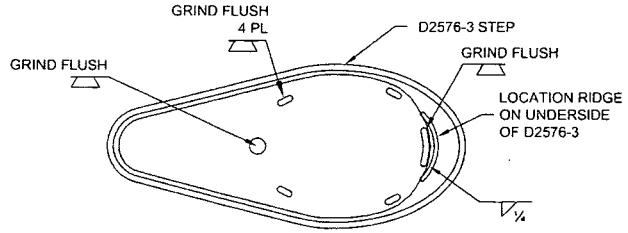
DETAIL H C6-7
SCALE 5X



SECTION I-I D5-7
SCALE 5X



DETAIL J D3-7
SCALE 5X

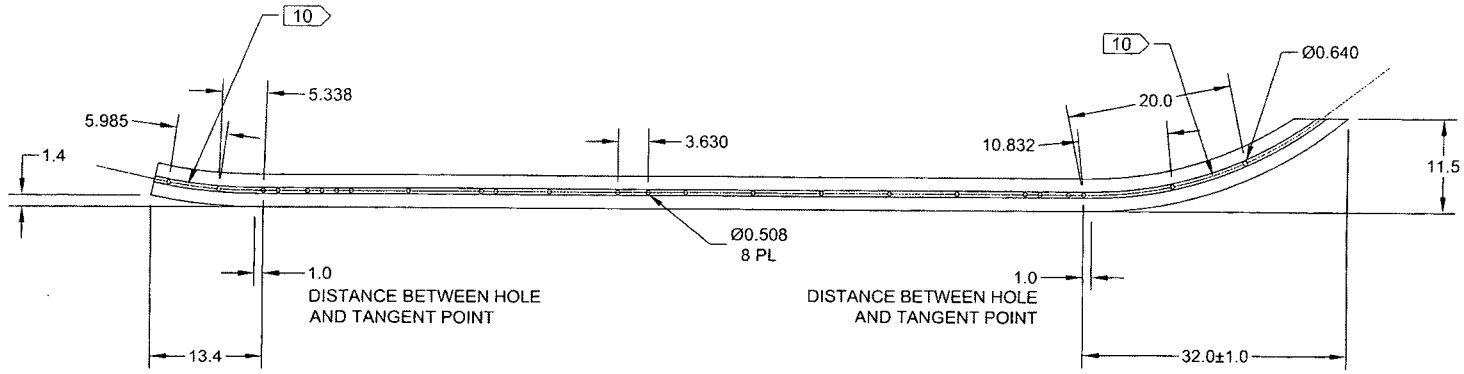


AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:
1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (25 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C'BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP

DESIGN		**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA
DRAWN	RF	
CHECKED		DRAWING NO. D2580 REV. E
MFG. APPR.		SHEET 6 OF 8
APPROVED		TITLE 205 SKIDTUBE ASSEMBLY SCALE NTS
DE APPR.		
DATE 11.06.21		

COPYRIGHT © 1996 BY DART AEROSPACE LTD
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

99247



D2580-7 BENT TUBE E
(MAKE FROM D2580-101 TUBE)

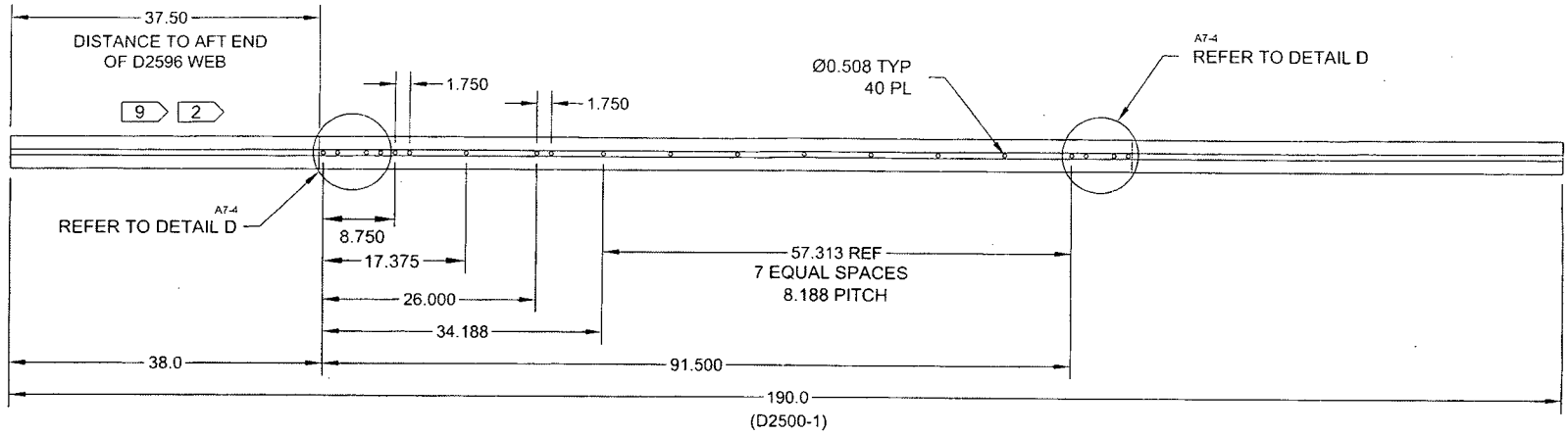
DEO ATTACHED

RELEASED
2011-08-29

DESIGN		DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. E
MFG. APPR.		D2580	SHEET 7 OF 8
APPROVED		TITLE	SCALE
DE APPR.		205 SKIDTUBE ASSEMBLY	NTS
DATE	11.06.21		

COPYRIGHT © 1996 BY DART AEROSPACE LTD
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD

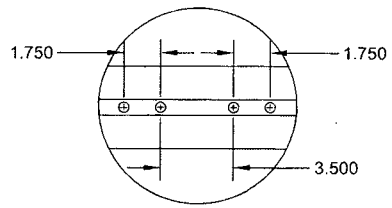
99247



D2580-101 TUBE

DEO ATTACHED

RELEASED
2011 -08- 29



DETAIL D D3-4 C7-4
SCALE 5X

DESIGN		DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. E
MFG. APPR.		D2580	SHEET 8 OF 8
APPROVED		TITLE	SCALE
DE APPR.		205 SKIDTUBE ASSEMBLY	NTS
DATE	11.06.21		

COPYRIGHT © 1996 BY DART AEROSPACE LTD
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD

9924X

DRAWING NO.	TITLE	REV. E	DART AEROSPACE LTD ENGINEERING ORDER	D.E.O. NO.	SHEET NO.	SCALE
D2580	205 SKIDTUBE ASSEMBLY			D2580-E-1	SHEET 1 OF 1	NTS

DRAWN	CHECKED	MFG. APPR.	APPROVED	DE APPR.
DATE 11.12.13	DATE 11.12.13	DATE 11.12.13	DATE 11-12-13	DATE 11-12-13

PURPOSE:
CHANGE ALL C'BORED WELDED CROSSBOLT SPACERS TO SWAGED SPACERS

CHANGE:
PARTS LIST IS AMENDED AS FOLLOWS:

WAS

QTY -041	QTY -045	QTY -047	PART NUMBER	DESCRIPTION
20	24	25	D2579	CROSS BOLT SPACER

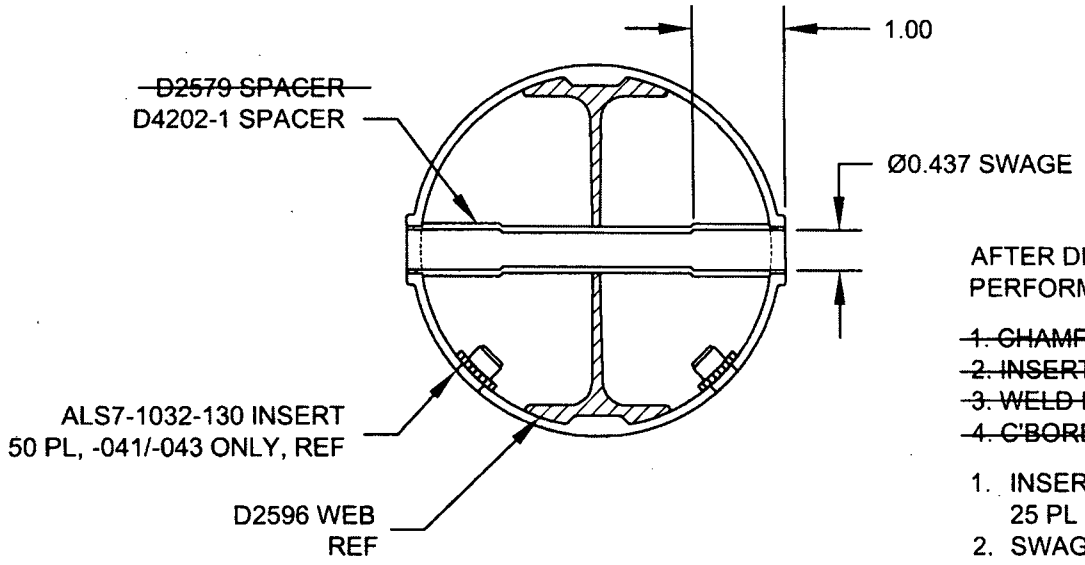
IS

	4		* D2579	CROSS BOLT SPACER
20	20	25	D4202-1	SPACER

*** FOR -045 SKIDTUBE ONLY:**
WELD 4X D2579 SPACERS PER DWG
IN LOCATIONS MARKED "**NO C'BORE**".
REF SHEET 4 OF DWG.

RELEASED
2011-12-1

SECTION B-B, SECTION F-F, & SECTION I-I ARE AMENDED AS FOLLOWS
FOR ALL HOLES THAT WERE ORIGINALLY C'BORED:



SECTION B-B, F-F, I-I
NOT TO SCALE

AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:

~~1. CHAMFER HOLE 0.050 X 45°~~
~~2. INSERT D2579 SPACER (20 PLACES)~~
~~3. WELD INTO PLACE AND GRIND FLUSH~~
~~4. C'BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP~~

1. INSERT D4202-1 SPACER, 20 PL (-041) OR 20 PL (-045) OR 25 PL (-047)
2. SWAGE TO Ø0.437 X 1.00 DEEP PER QSI 002
3. TRIM / GRIND FLUSH PER QSI 002

COPYRIGHT © 2011 BY DART AEROSPACE LTD
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.